

The GARZETTE

May, 1999

Volume 10, Issue 3



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The President's Pen

By David Adcock, KA4KKF



David Adcock, KA4KKF
Digital image by KE4GYM

The month is May and we may have skipped the bad weather this year. Let's hope so.

I'm in Colorado again. The month of April has come and gone. We had an interesting program for all those who didn't make it to the monthly meeting. Bill Husted, KQ4YV was our speaker and he held everyone's interest for the night. I want to thank Brian (KF4MWI) for arranging the program. We had 2 events this month and they were a big success. I would like to thank all that participated in one or the other.

Dayton Hamfest is this month. I hope everyone that goes has a wonderful time. Every ham should go at least once. May 22-23 gives you a chance to help with the guys at Lake Lanier. If you want to help, give Eddie (WD4JEM) a call.

June is coming up very fast and that means field day. That also means The Atlanta Hamfest. We are selling spaces this year so if you are tailgating get your tailgate space from GARS. Check the web page for info.

The new six meter repeater will have it's first net on May 5. Let's make sure it is a success. The picnic is coming up too. Hope you have a great summer. See you next month at the meeting on May 20.

73, KA4KKF



GARS Repeaters Host New Nets

By Ike Chapman, KE4GYM

Two net nets have been kicked off on the **GARS** communication system during the past few weeks.

The "People's Library Net" is run on the **GARS** W4GR 2 meter repeater every Wednesday from 11:00 AM til noon. The net is run from the W4WOW amateur

station at Scitrek in downtown Atlanta by Thornton Williams, KF4LGX. The net gives students and other visitors to Scitrek exposure to VHF operations.

The other new net is being called on the **GARS** W4GR 6 meter. The 6 meter net kicked off on May 5th and will meet

each Wednesday at 9:00 PM. The net is being organized by Marty Folwer, KE4MLH and **GARS** Net Manager Susan Swiderski, AF4FO. They're looking for volunteers to assist with net control duties if you're interested in helping out.



The GARZETTE

The GARZETTE is the official monthly organ of the Gwinnett Amateur Radio Society serving its members and other persons interested in the advancement of the amateur radio art.

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If possible, submit items in ASCII text format or Microsoft Word format by email to ichapman@mindspring.com. Artwork can be accepted in most any graphics format and can be submitted via email to the same address. Alternate means of submittal can be arranged when necessary.

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The GARZETTE is created on a Pentium II-300 MHz computer using Microsoft Publisher 98 and Microsoft Office 97.

The GARZETTE is published each month with the assistance of Joe Biddle, AD4PZ and Karl Phillips, K4GZZ who interface with the printer. Paul Brisendine, K4HCM does the final production work on *The GARZETTE* by folding, labeling, stamping and getting the end product to the Post Office each month. Many thanks to both of them and all article contributors.

Deadline for submissions is the 24th of each month for inclusion in the following month's issue.

For any additional information contact:

Newsletter Editor:
Ike Chapman, KE4GYM
(770)339-8123
ichapman@mindspring.com

All correspondence relating to articles posted in *The GARZETTE* or for information concerning advertising rates should be directed to the following address:

Gwinnett Amateur Radio Society
P.O. Box 88
Lilburn, GA 30048
Attn: Newsletter Editor



Gwinnett Amateur Radio Society

April 15, 1999, Meeting Minutes

By Mike Swiderski, K4HBI

David Adcock, KA4KKF, President, called the **GARS** meeting at Central Baptist Church to order at 1930 EDST. Club officers present: David Adcock, KA4KKF, President; KF4NBD, Jeff Cutchins, Treasurer; and K4HBI, Mike Swiderski, Secretary. Introductions, including many visitors (14 per the sign in sheet), were followed by announcements:

KE4EIH, Bill Ahls, wahls@bellsouth.net, requested volunteers to help with the Memorial Day Parade in Dacula, GA.

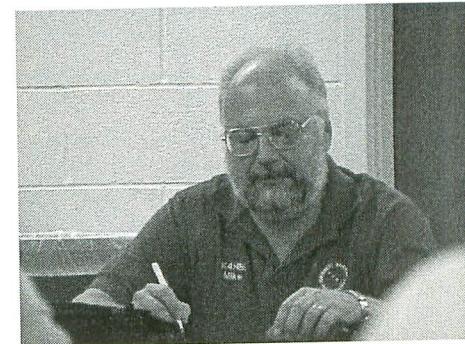
The club sponsored license classes were reported to be underway and going strong.

David, in the absence of the scheduled Summer Special Olympic Games representative (Jennifer Daniell [jennifer.daniell@specialolympicsga.org]), gave the club the request for help during this event at Emory University, May 21-23, 1999. Contact, Steve Finger, sfinger@avdata.com.

KE4IGD, Geoffrey-Allen Franklin, gasf@acrl.com, requested assistance for the April 24, March of Dimes Walk-a-thon at the Vinings Botanical Gardens from 0630 to 1300 EDST.

KF4HLF, Carter Wood, carterjwood@netscape.net, requested volunteer support and HF radios for running the amateur radio demonstration station at the April 24, Scout Expo 1999 gathering at the Gwinnett County Fair Grounds. The demonstration will include the **GARS** tower.

AF4FG, Earl Whatley, ewhatley@bellsouth.net, reminded everyone to mark their calendars for October 9, to help with the **GARS** demonstration for the 3500 scouts



GARS Secretary Mike Swiderski, K4HBI.

Digital image by KE4GYM

that will be attending the Gold Rush Jamboree at Sandy Creek Park in Athens, GA using the national scout call sign of K2BSA.

WD4JEM, Eddie Foust, wd4jem@bellsouth.net, requested volunteer assistance for the Lanier Canoe and Kayak's May 22 & 23, to provide radio communication for the safety boats stationed along the two 30 km courses during this Saturday and Sunday event.

KE4GYM, Ike Chapman, ichapman@mindspring.com, our **GARZETTE** Editor, requested articles for the field day edition.

KG4CED, Larry Thill stood and gave thanks to **GARS** for sponsoring educational classes that allowed him and others to enter a hobby that seemed unattainable. Larry gave a special thanks to the MAN that made it happen - our own WU4H, Jack Herndon, who came to instruct and succeeded in a big way. Hats off to Jack and his students, this was very evident by the rousing ovation he received.

David, KA4KKF, reported that Thornton Williams', KF4LGX,
(Continued on page 3)

Meeting Minutes

(Continued from page 2)

request for use of the **GARS** 2M repeater for a "Peoples Library Net" in conjunction with STARS at SciTrek on Wednesdays from 1100 to 1200 was approved.

David, KA4KKF, also reported that a 6M repeater net will begin on May 5, Wednesday at 2100 local on the 53.11-1 **GARS** 6 M repeater. The net is expected to continue on a weekly basis, if there is a desire to help as net control, please contact either the **GARS** Net Manager - AF4FO, Susan Swiderski or the 6M Net Manager - KE4MLH, Marty Fowler.

K4HCM, Paul Brisendine, reported that the GARZETTEs were mailed the week prior to the meeting week and the slowness of the delivery will be reviewed, but folks they are in the mail.

The March meeting minutes were accepted as published in the GARZETTE.

KF4NBD, Jeff Cutchins, Treasurer, presented the financial status with a current balance of \$4434.89. After fielding accounting questions from K4TJD, Tom Dooley, the report was accepted.

KE4EIH, Bill Ahls, wahls@bellsouth.net, who requested volunteers to help with the Memorial Day Parade in Dacula, GA, provided more information. The parade is on Monday, May 31, starting at 10 am. Volunteer operators are requested at 8 am to assist with parade set up. In addition to parade staff volunteers, Bill stated that a 1/2 scale of the Vietnam Memorial wall will be in Dacula from May 28 through June 1 and there is a need for volunteers to man the "wall" so as to assist visitors to help locate names.

David introduced the Membership Chairman, KN6DO, Jack Perry, who submitted the following for membership:

Sandy Harris, KF4BUW, the Flack Family: Lee, KD4HPD; Mary Ann, KE4AXE; David, KC8AAY These good folks were accepted into the **GARS** "family" by all.

David introduced KF4MWI, Brian Siegmund, to do the honors of introducing this evenings guest speaker and program, Bill Husted, KQ4YA, "Techno Buddy", Atlanta Journal and Constitution Columnist. Bill started with a historical rundown about himself. Some items included that he was first licensed at about age 13 as KN5JFG, letting his call lapse in search of teen endeavors, and getting his license back about 8 to 10 years ago. Even though his varied past included teaching, working for the National Enquirer, etc, he still provided an excellent and enjoyable program that revolved around questions from the floor and several tangent amusing stories. A wide variety of topics were discussed such as PC radio receivers, Y2K, internet effects and direction, newspaper work and future, and marketing amateur radio to the youth. Well Done Bill, and thanks Brian for the program.

I, K4HBI, made a plea for help during this years field day to all, everybody doing just a little will make the best Field Day ever, the fun in helping is tremendous and generates a warm fuzzy inside. So please help out in some capacity even for only a short time. Contact W4ADE, Ade Wirth, w4ade@aol.com.

KF4NOG, Gene Gach, kf4nog@bellsouth.net, the CW Net Manager requested additional CW practice Net Control operators to help out on the Tuesday night, 2100 hrs, 2m repeater, CW practice net. Gene indicated that if anyone is interested, he can set them up to do this function.

David announced that Charles Golsen, N4TZM, of the Atlanta Radio Club (ARC) was here to discuss **GARS** involvement in the ARC's June 5 & 6 Hamfest at the Jim Miller Park in Marietta. David

(Continued on page 13)

GARS

Officers

President

David Adcock, KA4KKF (770) 271-9398

Vice President

Rick Morris, KD4VOJ (770)945-5818

Secretary

Mike Swiderski, K4HBI (770)449-0369

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Jeff Cutchins, KF4NBD (770) 614-8750

Activities Manager

Howie Gould, W4NVF (770)921-8362

Board Of Directors

Johnny Fearon, W4WKP (770)466-4038

Randy Drescher, K4HS (770)925-9549

Ike Chapman, KE4GYM (770)339-8123

COMMITTEES

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Jack Perry, KN6DO (770)844-7306

Publicity Chairman

Paul Brisendine, K4HCM (770)962-5247

Newsletter Editor

Ike Chapman, KE4GYM (770)339-8123

License Trustee

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Repeater Chairman

Howie Gould, W4NVF (770)921-8362

Tech Fest

Barry Zoll, N1TOQ (770)277-5175

TVI

David Schulte, KT4NK (770)923-0389

Contest Manager

Open

Net Manager

Susan Swiderski, AF4FO (770)449-0369

CW Net Manager

Gene Gach, KF4NOG (770) 925-0186

Field Day

Ade Wirth, W4ADE (770)614-3743

Don Button, AJ1T (770) 476-2432

Education Coordinator

Win Jackson, N1TWX (404)869-1347

Legal Counsel

Bill Brandon, WW4BB (770)554-9998

Apparel Manager

Susan Swiderski, AF4FO (770)449-0369

Christmas Party Chairman

Tammy Sokol, (770)925-1619

Digital Radio Chairman

Open

QSL Manager

Ade Wirth, W4ADE (770)614-3743

Webmaster

Ike Chapman, KE4GYM (770)339-8123

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On The Air With Buddy Menshew, KE4YZS

By Karl Phillips, K4GZZ

This month's ON THE AIR features a **GARS** member since 1995 - KE4YZS, Buddy Menshew. Buddy was born in Dewitt, Arkansas and grew up there. He attended grammar school there but his family moved to the greater Atlanta area when he was 15. While living in the Norcross area, Buddy attended Norcross High School. He later moved to the Chamblee area and finished high school, graduating from Sequoyah High School in 1976.

After high school, Buddy worked several jobs including gas station work and a 2 years stint at a local grocery store. In 1979, Buddy went to work for Siemens in Tucker specializing in making electrical panel boxes. Buddy has been there for the past 20 years and had hoped that the company would award him on his 20th anniversary with that shiny new BMW for his 20 years of service.....but he had to settle for a gold watch!! That's quite all right though...I'm still waiting for my ride in our corporate executive jet !!!

Buddy got into ham radio in much the same way most of us did....through Citizens Band radio. Buddy's parents were avid CB operators and had mobile and base radio units. Buddy has also been an avid scanner listener all of his life.

After moving in with his aunt, Buddy went to a hamfest and met Ike - KE4GYM. Ike steered Buddy in Howie's (W4NWF) direction and Howie helped Buddy get the study materials that he would need to get his ham ticket. After Buddy studied for a while, he went to the Lawrenceville EMC to take his test. He passed his novice part but failed to pass his Technician theory. A little while later though, Buddy successfully passed and became the ham he is today...KE4YZS. Although Buddy is not real Gung-Ho



Buddy "Bubba" Menshew, KE4YZS

Digital images by KE4GYM

about upgrading, he does dabble in the code from time to time and does have the code study material.

Buddy joined **GARS** in 1996. He likes to meet new hams in the club and really enjoys being a member of the **GARS** family. I have been trying to interview Buddy for quite some time, but never could catch him at home. I think that is due in part to his tremendous activity in the club. Buddy works many events for both the **GARS** club and he is also a member of the Alford Club. Buddy is also Talk-In for all of the ARES meetings and is a very diligent participant in ARES activities as a part of Lowry's (KM4Z) group.

Buddy has some ham

equipment. I would list it all, but this reporter regrets due to time constraints and space, I'll just tell you Buddy has 12 handheld units. He also owns a Yaesu 530 with an Astron 12 power supply and a 35 watt amp. Buddy has equipment that he can just "pick up and go" with at a moments notice to set up for emergency operations.

Buddy has another hobby. Buddy is into body building but says that he has NO equipment. He does, however have a large stack of fitness magazines that he picks up from time to time and moves about the room. Buddy also rides a Harley Davidson 1200 Sportster and runs his handi-talkie from his belt with an earpiece for noise free monitoring.

I guess I have known Buddy for about 2 years now and I'll tell you...you won't find a much nicer guy. Buddy is a dedicated and active **GARS** member. Buddy is always willing to help with an event and contrary to what you may have heard on the **GARS** repeater..... Buddy has indeed bought Lowrey breakfast before....and coffee too !!! Buddy is a **GARS** member that's worth getting to know.

Oh Yeah !! Buddy is prone to stop on the way home from work for a burger and a dollars worth of gas. I HEARD THAT !!!

Join me next month for another ON THE AIR feature of another **GARS** member.

73 Karl - K4GZZ

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ARES News

By Lowry Rouse, KM4Z

CPR Saturday with the American Red Cross turned out to be a successful day. In a letter of appreciation sent to Gwinnett ARES, Kathy Papa (CPR organizer) said that over 800 citizens were trained or renewed their certification in CPR procedure that day. Participating from ARES was Buddy (KE4YZS), Win (N1TWX), Charlie (KF4KDF), Royce (KD4EXY), Don (KF4YQV) and myself. A special thanks to Dale Baldwin, WB0QGH and Fred Runkle, K4KAZ for the use of the 442.85 MHz repeater atop the Gwinnett Medical Center. Its location provided reliable communications between Summerour MS and Collin Hills HS. Buddy brought his "radio box" to Summerour and if you haven't seen it, come by one of the ARES meetings and I'll ask him to put it on display. Some of the items used are a 12v DC power supply and 2 meter amplifier. He also supplied a Cushcraft dual-band beam antenna which provided a full quieting signal into the repeater. The Collin Hills group used their handheld's and were able to maintain good signals into this repeater. While we were using the 440 band as primary communication link, Royce and I used **GARS**'s new 6 meter repeater to see if we could establish a communication link. Royce was able to use his VX5R HT with rubber duck from Collin Hills while I had to connect a 50 MHz mobile antenna to my Cherokee AH-50 HT to use the machine. Bottom line is that the new 6 meter repeater can be used effectively for emergency or event communications. We'll see use more use of the 6 meter repeater for communication as more 6 meter equipment is purchased by. Thanks **GARS** for another fine repeater to use in the community.

I've recently filled the Logistics Manager position. He is none other

than Buddy Menshew. Thanks for taking on that important responsibility. If you have equipment that can be used during an emergency, please contact Buddy and inform him as to what you have and arrangements for getting it delivered or picked up.

I recently found out that Larry (WT4XX) Osborne has moved out of the area leaving the **GARS** Liaison position vacant. This position requires a combined **GARS** and ARES member to handle the relationship between the two groups. Even though 90% of Gwinnett ARES members are also **GARS** members, they are two separate organizations. As most of you know, Gwinnett ARES relies on using **GARS** resources for almost all of its communications needs and equipment. It's difficult to be involved heavily into both ARES and **GARS** activities in an EC's position. So the liaison's job will be to keep me informed of **GARS** activities or needs from ARES and to keep **GARS** executive committee inform of ARES happenings. Sounds simple doesn't it? It's really an important position and if you feel up to it, contact David Adcock (**GARS** President KA4KKF) and me to be considered for the job.

I recently talked with a older ham who has seen several real time disaster events over his years and was impressed with his knowledge and outlook on emergency communications. The point I want to make is, within Gwinnett's ARES resources, almost all of the actively participating members are people who've been licensed in the last 5 to 7 years. I know that when a disaster strikes, hams will come out of the woodwork and look to participate. The problem is that they are not familiar with our procedures and way of doing things, just as we're not familiar with their ways either. So,

lot of times you get two or more groups trying to run things and obtain poor results for the effort. We need the experience and knowledge of hams who've "been there and done that" in emergency work. So I'm using this column to invite all age hams (especially hams who've been involved in disasters of any type) to come join us in ARES meetings and training events. Your knowledge and experience can be used to train our less experienced hams and thus create a well trained group of Amateurs to carry on the tradition of providing emergency communications in the future. You that are retired could be an invaluable source of leadership in the amateur community as most of the now active ARES members work out of the county or travel away from home on their job and are not always readily available when a disaster strikes. You need to become involved on a frequent basis to help organize and either become familiar with Gwinnett's ARES SOP (Standard Operating Procedure) or help create new procedures based on your experience and get them implemented into the SOP. So bottom line thought here is; to have a top notch, 24 hour a day, readily available emergency communication group, I need to have participation and commitment from all hams whether a new timer, old timer or in-between.

Please give this some consideration. If you're a more seasoned ham (meaning experienced in emergency work and handling formal traffic) and don't participate in ARES activities because you feel out of place with the "newer generation" ham or you think that your ideas won't fit into place with the present leadership of ARES, then I'm saying, you are needed and will be a valuable asset to the ARES

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News From The League

FCC DROPS AMATEUR ENFORCEMENT LINE IN FAVOR OF E-MAIL, US MAIL

The FCC says it now wants Amateur Radio enforcement complaints via e-mail or US mail and has discontinued its Amateur Enforcement Line (202-418-1184). The FCC this week requested that amateur-related complaints be sent via e-mail to fccham@fcc.gov or via the US Postal Service to Compliance & Information Bureau, ATTN Amateur Radio Complaints, 1270 Fairfield Rd, Gettysburg, PA 17325.

The FCC instituted the telephone service last fall when it beefed up amateur enforcement under the direction of Riley Hollingsworth, K4ZDH. However, the FCC never intended to maintain the telephone service permanently.

The FCC said this week that complaints already filed on the telephone service will be acted upon, and anyone who has left a message will receive a return call from Commission staff.

PRB-1 BILL CLEARS TEXAS SENATE

The Texas Senate has approved the Amateur Radio "tower bill," and the measure appears headed for passage. The measure passed its second and third readings Monday, April 19. It now goes back to the House because of a minor change in an amendment first made on the House side.

The Texas bill, HB-1345, would incorporate the essence of the limited federal preemption, PRB-1, into state law. The measure would amend the Local Government Code in Texas to prevent local jurisdictions from enacting or enforcing ordinances that fail to comply with PRB-1. The bill further would require ordinances dealing



with Amateur Radio antenna placement, screening, or height based on health, safety or aesthetics to "reasonably accommodate amateur communications" and "represent the minimal practicable regulation to accomplish the municipality's or county's legitimate purpose."

Johnson Space Center Amateur Radio Club President Karl Silverman, N0WWK, who's been a prime mover behind the bill says that, because the Senate made only a change to an amended portion of the House bill, it will not have to be heard by the full House. Instead, the bill's sponsor, Rep Patricia Gray, just has to agree to the change.

After that, the Speaker of the House will send the measure to Gov George W. Bush's office for signing. "So, by the end of this week, the bill should be headed to the Governor's office," Silverman said.

A similar measure has been inching its way through the Maine legislature.

UoSAT-12 LAUNCHED AND FUNCTIONING

The latest Amateur Radio satellite, UoSAT-12, was successfully launched April 21 just

before 0500 UTC from the Baikonur Cosmodrome in Kazakhstan aboard a converted Soviet SS-18 ICBM. This marked the first time a Russian missile designed for war had been converted to peaceful purposes to carry a commercial satellite into space. Under the terms of the START arms reduction treaty, the former Soviet Union's entire arsenal of SS-18 Satans must be destroyed or used for peaceful purposes.

The satellite was successfully switched on at around 1800 UTC and copied on the 2230 UTC pass in Japan by Kazu Sakamoto, JJ1WTK. The downlink is 9600 baud FSK and can be copied on 437.400MHz.

The satellite is considerably larger than UO-22 or TO-31, and carries a propulsion system for orbital housekeeping experiments. UoSAT-12 carries a number of imaging payloads (with an up to 10-meter image resolution) along with digital store-and-forward communications on VHF and UHF. Mode L/S transponders will also be supported with a high-speed digital downlink.—Bruce Paige, KK5DO, with thanks to the University of Surrey and Chris Jackson, G7UPN

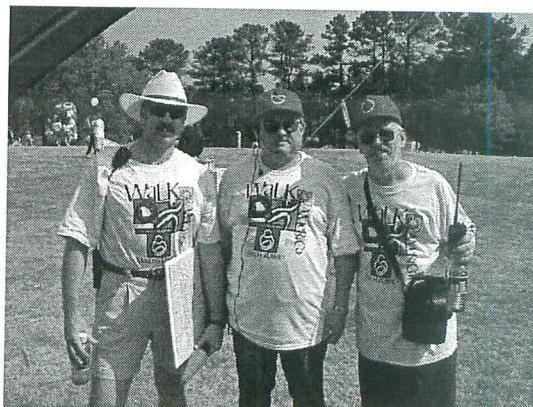
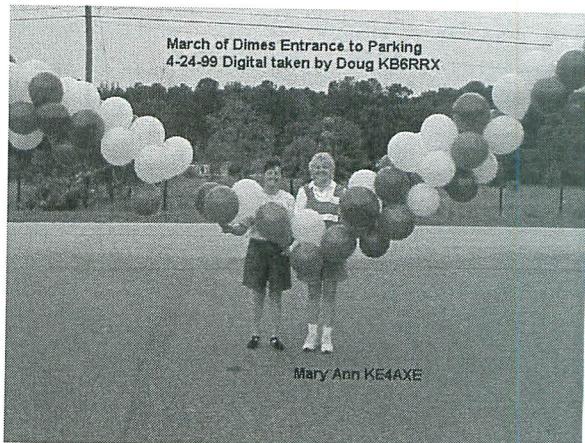
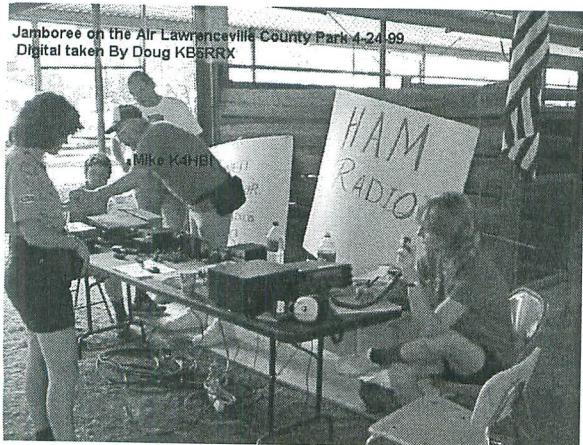
Material reprinted from the The ARRL Letter courtesy of The American Radio Relay League, Newington, CT.



GARS In Action

Photographs By Doug Kregrel, KB6RRX and Lee Flack, KD4HPD

GARS members participated in two events on Saturday, April 24th, the March Of Dimes Walk-a-thon at Vines Botanical Garden near Grayson and a Boy Scout Jamboree at Gwinnett County Fairgrounds. As always, some of our members had their cameras with them and got some great pictures of the events.



Shack Of The Month

A Do It Yourself Project

Article and Text by Dean Matthews, AD4OD

Hams that work HF deal with a lot of heavy gear, which creates some special problems. This project deals with a way to overcome these problems with out too much expense or trouble

Linear amplifiers, tuners, scopes and the HF rigs themselves can cause our operating stations to become extremely heavy. Many hams buy extra heavy desks just to bear the load.

Then there is the amount of wiring involved in hooking all this stuff up, scads of it! And most of the equipment is meant to be wired from behind. So to service a component, we have to crawl on our bellies like rattlesnakes to get to cables from below, try to lean over the equipment and work half blind from above, or get the desk/station turned around to access everything from the rear. If we position our station for rear access all the time it eats up a lot of floor space, and the cable nightmare not a pretty sight... to non-Hams, anyway.

Isle grazing at Home Depot finally offers a solution to my dilemma. Three-inch garage door pulleys (Photo 2: Model GD-1209) looked more like track wheels to me, and a 48-inch length of $\frac{3}{4}$ -inch gal-

vanized angle iron (Photo 3) provided the perfect track.

Since my loaded desk (Photo 1) weighs about 400 lbs., I jacked it up on one end with a car jack (Photo 5). I then positioned the "wheels" so that they would extend below the legs a half inch, and marked the bolt hole. My desk had pads held in with loops of metal, so the hole I drilled just went through the loop. If the desk had leveling pads, they would probably have to be removed so you wouldn't be trying to drill through the leveling bolt.

I drilled a hole to pass the $\frac{3}{8}$ " by 3" long bolt through, and used a flat washer on either side of the leg to space the wheel off the leg slightly and protect the leg from crushing. The parts are laid out as assembled in Photo 4.

After bolting both wheels on the right side, I placed the angle iron on the carpet with the point facing up, under the wheels and let the desk down on it. Then I jacked up the left side and mounted the wheels on that side. I used galvanized angle iron so it wouldn't put rust stains on the carpet over time.

My desk is only about 2 feet deep (it was originally a school PA console) so 48

inches of track allows me to roll it out 2 feet from the wall for access (Photo 6) with ease. The wheels I chose seemed at about their load limit with my desk. Two wheels and tracks could be used for heavier desk.



Photo 2

Shack Of The Month



Photo 1

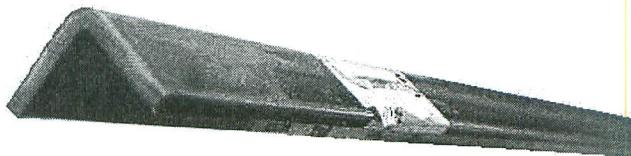


Photo 3

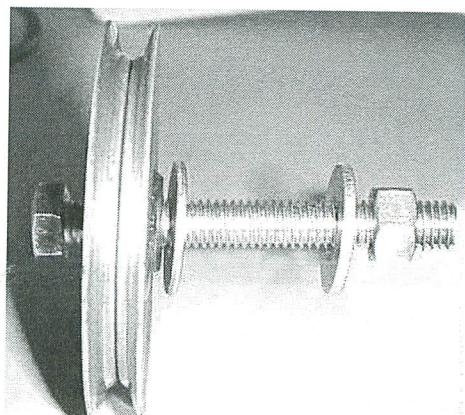


Photo 4

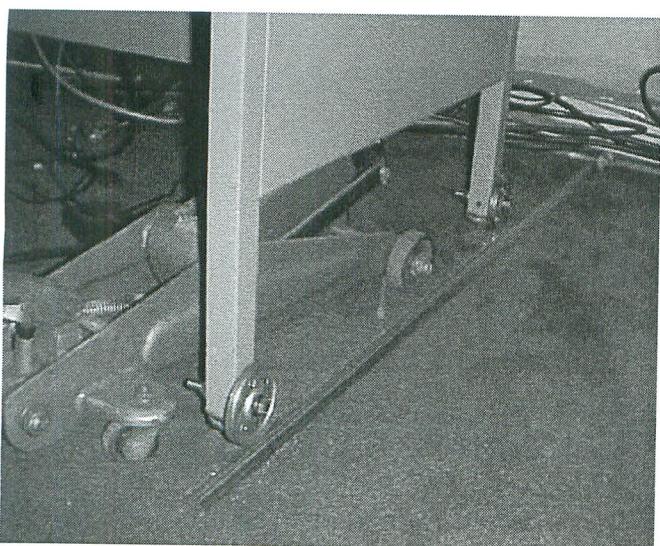


Photo 5

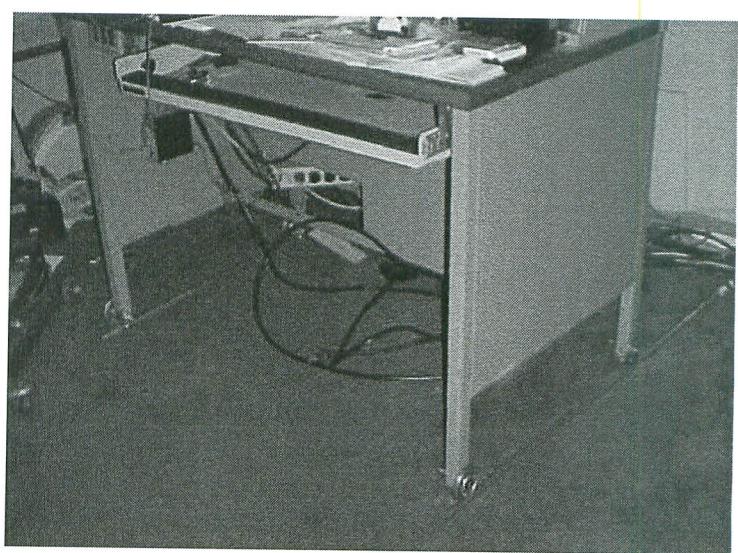


Photo 6

Atlanta HamFest 1999

ARRL Georgia State Convention

June 5 and 6, 1999

Jim Miller Park
Marietta, GA

Sponsored by:
Atlanta Radio Club

Gwinnett Amateur Radio Society
Kennehoochee Amateur Radio Club
North Fulton Amateur Radio League

Flea Market and Tailgate spaces available for \$8.00
via pre-registration through
Gwinnett Amateur Radio Society
Spaces are \$10.00 at the gate

To reserve a space through GARS mail check for
\$8.00 per space to :
GARS
P.O. Box 88
Lilburn, GA 30048

Make checks payable to GARS, checks must be mailed prior to May 16, 1999. No
reservations will be accepted for letters postmarked later than May 16.

Rental fee does not include admission to the grounds (\$5.00 per person) or any tables or
other amenities.

The Ten Most Common Tower Building Mistakes

By Steve Morris, K7LXC

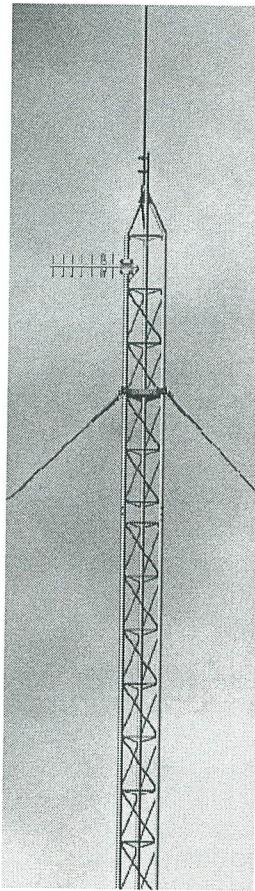
After working on over 100 amateur radio tower and antenna systems over the last 15 years, I have seen many problems and failures that could have, and should have, been avoided. By not making these mistakes, you can make your tower and antenna system safer and more reliable. It'll even let you sleep nights better.

1. Not following the manufacturer's specifications - Commercially manufactured towers have to comply with current standards for wind loading and structural integrity. Licensed Professional Engineers (PE's) design the towers and make the calculations to make them safe. If you don't follow their specs at a minimum, the tower will not take the stresses and loads that it is subject to. In other words, it'll probably fail.

2. Overloading - This is the most common reason for amateur tower failure. The first thing you need to know to plan and build a tower and antenna system is what the wind speed rating for your county is. Next, you need the manufacturer's specifications for that wind speed. Then you must not exceed the wind load rating based on those factors. This is even more important for crankup towers. Refer also to number 1.

3. Underestimating wind forces - Wind pressure on a tower and antenna system can be tremendous. Unless you've been up on a tower during a windstorm to feel the pressure and the forces, it's difficult to appreciate how significant they are. Increases in wind pressure are not linear, they are geometric.

4. Not building to the wind speed rating for the county - While many counties in the US are only rated for 70 MPH winds, many other counties have ratings much higher, up to 115 MPH. Find out what the wind speed rating is for your county, or your specific location, and use



that as the minimum design parameter for your tower and antenna system. See also number 1 and 3 above.

5. Using the wrong mast for the job - Medium to large sized HF beams can put huge stresses on your mast. Know the difference between pipe and tubing as well as the pressure that your antenna system will put on the mast (tubing is generally acceptable, pipe is not). Then you can make sure that your mast will not bend or break in a big wind storm.

6. Not having the guy wires tensioned properly - Proper guy wire tension is a critical part of a tower's ability to handle wind stresses. Having the wrong tension can be like

driving your car with over- or under-inflated tires; it is potentially dangerous and is not the proper specification from the manufacturer. Find out the proper tension for your installation and tension them correctly.

7. Not having a proper ground system - A good ground system is necessary not only for lightning protection but also for minimizing RFI to adjacent electronic devices.

8. Not doing an annual inspection - Your tower and antennas system is in a constant state of deterioration. While it may be a slow process, it is going on continually. The best way to find and fix small problems before they grow into big problems and potential calamities is by doing an annual inspection.

9. Not fitting the tower sections on the ground - Tower sections, new or used may not fit easily together. It's much easier to correct alignment problems on the ground than up on the tower.

10. Using the wrong hardware - Since tower and antenna materials are in a constant state of deterioration, you should only use hardware that minimizes corrosion. Galvanized or stainless steel materials are the only ones that will survive outdoor use reliably. Using the wrong hardware includes using non-closed-eye eyebolts. Use only forged or welded eyebolts since the wrong type can open up accidentally with disastrous results.

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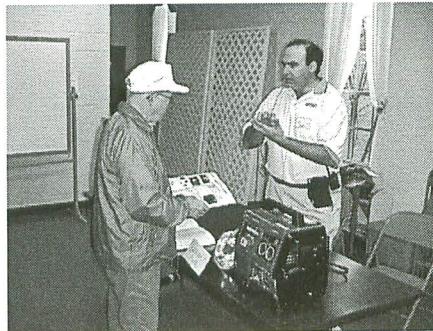
Generators — From A to Z

By Barry Zoll, N1TOQ

As Y2K approaches, there are rumors circulating the world about computer failures, nuclear war, food shortages, and massive power outages. I don't know enough about any of these topics to form an opinion, but I do know that electric generators, once considered a luxury, have become very popular as January 1, 2000 approaches. In this series of articles, my goal is to educate you on the theory of how these machines work, how to determine proper size generator for your needs, and most important, how to use a generator safely.

So how does a generator generate electricity? A generator contains several components including a stator (the stationary part, usually cylindrically shaped) the rotor (the rotating part) and an engine. The purpose of the engine is to spin the rotor (mounted on the end of the crankshaft) inside of the stator. If you think back to your high school science class (some of you need to think way back, hi hi), your teacher introduced you to the theory of magnetism. The rotor in a generator is nothing more than an electromagnet. When energized, it has a north pole and a south pole one located on each side. As this rotor spins, its windings (which when energized, become electromagnets) pass by different windings in the stator. When one pole passes a stator winding, it induces a positive pulse and when the other pole passes that same winding, it induces a negative pulse, thus we have an AC sine wave. This event occurs 60 times per second, or 60 Hz.

The rotor or electromagnet must have a way to be energized. One method uses an Automatic Voltage Regulator that feeds voltage to a set of brushes that ride on the rotor's slip rings. Another method uses a condenser that is attached to a "condenser winding"



The author (R) talks generators at his booth at the 1999 **GARS** Tech Fest.

Digital image by Brian Siegmund, KF4MWI

in the stator and energizes the rotor through induction, rather than through a direct connection with the brushes. As the demand for electricity increases, the Automatic Voltage Regulator will sense this and will pump more voltage into the rotor making it stronger. The brushless type generators use induction to regulate the voltage (too technical to explain here).

So what is the function of the stator? The stator houses a series of windings that are wound in such a way, that the ratio of the windings in the stator to the windings in the rotor will produce the desired voltage at the receptacles. The relationship between the rotor and the stator is similar to the function of a step up transformer.

Some of today's generators will allow you to charge a 12 volt automobile battery. This is accomplished by tapping a stator winding to deliver AC voltage to a rectifier that in turn will deliver 12VDC.

The "new kid on the block" in the generator business is the inverter. This type of generator uses a small multi-pole alternator, which feeds voltage to an inverter

block. This podded unit contains circuitry that will convert the AC input into DC voltage then convert it back to AC and deliver it to the receptacles. This process allows for exceptional voltage regulation and produces a "near-perfect" waveform. My employer has been selling a 350-watt inverter for many years with an impeccable repair history. For those of you that attended Field Day '98, you may have noticed (but certainly didn't hear) that we were using a 3000-watt inverter/generator.

This condensed version of Generator Theory 101 will be presented at either a **GARS** or ARES meeting sometime this year. If you have any questions, please let me know. Look for next month's article when we'll outline the decision making process for purchasing a generator.

73 de N1TOQ



Random Ramblings

"Don't worry about the world coming to an end today. It's already tomorrow in Australia."

-- Charles Schultz

"What if this weren't a hypothetical question?"

-- Unknown

"Oh, I don't blame Congress. If I had \$600 billion at my disposal, I'd be irresponsible, too."

-- Lichy & Wagner

"If you think nobody cares if you're alive, try missing a couple of car payments."

-- Earl Wilson



ARRL Email

By Kevin Berry, KF4RMA

ARRL now provides members with email Forwarding Service.

A great resource just got better! The Amateur Radio Relay League now offers its members email Forwarding Service. How does it work? If you've been on the League's web site, www.arrl.org, you've probably seen, and maybe logged onto the Members Only site. It's easy! All you need is your membership number, (from your membership card, or your QST mailing label) go to the site, click on Members Only and follow the instructions. You'll wind up with a "username" needed to log into the Members Only Web site. For email forwarding it's best to use your call-sign; when you elect to use the email Forwarding Service, your username becomes an address in the **arrl.net** mail system. For example, username@arrl.net.

This can be of great benefit! If you change your ISP (internet service provider), you won't have to notify everyone you know about an e-mail address change; simply update your ARRL on-line membership profile and the forwarding system will handle the rest. And when you tell fellow Hams, "I'm good on ARRL.net" they'll know exactly how to email you. No more broadcasting email addresses for eavesdropping "spammers" to use in flooding your in box with junk!

Check it out! If you're a member, you can do it all in about five minutes. If you're not a member, you can sign up while you're on-line at www.arrl.org!

CUL on the air es on the net!
73, KF4RMA@arrl.net, Kevin Berry



Best Regards,
Lowry KM4Z



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Metro Atlanta Club Meetings

First Tuesday

Metro Atlanta Telephone Pioneers

Old Hickory House
5490 Chamblee/Dunwoody Rd, Dunwoody
Dutch dinner is at 6:30 PM, followed by meeting.
Talk In 145.410(-)

Kennehoochee ARC

First United Methodist Church in Marietta
Meeting begins at 7:30 PM
Talk In 146.880(-)

First Thursday

Atlanta Radio Club

American Red Cross Building, Lindberg Plaza
Meeting is at 7:30 PM
Talk In -146.820(-)

N.E. Georgia ARC

Jefferson Civic Center
Off of Memorial Dr. toward Winder from Jefferson
Meeting is at 6:30 PM
Talk In - 147.225(+)

Second Wednesday

North Fulton Amateur Radio League

Ryan's Steak House
Alpharetta Highway (Hwy 9), Alpharetta
Dinner at 6:30 PM, meeting at 7:30 PM
Talk In - 145.47(-)

Second Thursday

Alford Memorial Radio Club

Killian Hall, Killian Hill Road
Lilburn
Dinner at 6:00 PM, meeting at 7:30 PM
Talk In - 146.760(-)

Second Saturday

East Atlanta LAN

St. Patrick's Episcopal Church
Dunwoody
Meeting is at 10:00 AM
Talk In - 145.410(-) and 443.025(+)

Third

THURSDAY



Gwinnett Amateur Radio Society

Central Baptist Church
Gwinnett Drive
Lawrenceville
Meeting begins at 7:30 PM in the fellowship hall.
Talk In -147.075(+) and 444.525(+)

Metro Atlanta VE Exam Schedule

GARS publishes Metro Atlanta area VE exam schedules as a service and is not responsible for errors or changes. Call and confirm schedules before going. All sessions are walk-in. Take copies of current license and certificate of completed elements with you to all sessions.

First Sunday

WCARS VEC

2:00 PM

(Except July and September)

Johnson High School

3305 Poplar Springs RD, Gainesville
Terry Jones, W4TL (770)967-6364

CA VEC
9:00AM

Marietta First United Methodist Church
Room 305, 56 Whitlock Ave

Marietta

Larry Huff, WA4CQZ
(770)955-3171

First Saturday

9:00AM

Clayton County Emergency
Management Building

7496 N. McDonough St., Jonesboro
George White, KN4NG (770)361-6850

Second Tuesday

7:00PM

Walton EMC

3645 Lenora Church Rd, Snellville
Wayne Taylor, WD4CCA
(770)498-7759

Second Saturday

CA VEC

8:30 AM

Stone Mountain Methodist Church
5312 West Mountain St.
Stone Mountain
Hal Martin, KI4RD
(770)978-9160

Third Saturday

Fourth Tuesday

ARRL VEC

7:00 PM

United Way Service Center
6279 Fairburn Road, Douglasville
Jessie Clower, KB4WFK
(770)942-6466.

Fourth Friday

W5YI VEC

7:00 PM

St. John Neumann Church
801 Tom Smith Road
Lilburn
Headphones Provided!
Howie Gould, W4NWF
(770)921-8362

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6 Meter Repeater

53.110 (-1 MHz) MHz
82.5 PL

Main Repeater Site
Oak Street, Lawrenceville

2 Meter Repeater

147.075(+) MHz
82.5 PL

Main Repeater Site
Oak Street, Lawrenceville

Backup Repeater Site
Lanier Mountain, Snellville

Remote Receive Sites

Bogart Road, Buford
Goshen Springs Road, Norcross
Lanier Mountain, Snellville

70 Cm Repeater

444.525(+) MHz
82.5 PL

Main Repeater Site
Lanier Mountain, Snellville

Remote Receive Sites

Under construction
Bogart Road, Buford
Goshen Springs Road, Norcross

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From The Editor's Desk

By Ike Chapman, KE4GYM

This is one of those good news/bad news things. The good news is that I had so much stuff to include in this month's newsletter that I had to expand it to sixteen pages from it's usual twelve. The bad news is that in doing so, I've cleaned out the cupboard. Yes, I could have saved some of the stuff for a future issue but in order to get the time related material in this issue it worked out better to do it this way.

Heck, I'd like to have that problem each and every month so I'm holding out my hat again and asking for articles. I do appreciate all the support that I've received since taking over the reigns as editor once again and look forward to having that support in the future.

Along those lines, it's now time to start putting together the annual



Field Day Special Edition GAR-ZETTE. So this is a call for articles, if you've got an article about a past Field Day experience that you'd like to share please send it along. I've done two of these special editions in the past three years and I always looked forward to receiving Jud Whatley's, W4NZJ/SK article every year. I for one will certainly miss

that this year and will miss seeing him there.

I'd also like to thank everyone for their patience last month as we work out the kinks involved with our new bulk mail permit. None of us on the newsletter team expected the delays that we experienced with mail delivery. In order to try and have the newsletter in everyone's mailbox before the meeting date I've moved up the monthly deadline for articles to the 24th of the preceding month. This will allow time to get the layout and printing done by the first few days of the month. Then we hope to get it in the mail around the 1st of the month allowing three weeks for delivery as the Post Office has indicated.

